☐ Conversion Only
☐ Update Only
☐ Informal Review
☐ Formal Review

STATE OF MONTANA
MONTANA DEPARTMENT OF TRANSPORTATION
JOB PROFILE AND EVALUATION

SECTION I - Identification

Working Title: Communications Technologist
Class Code Number: 492235
Communications Bureau

Department: Transportation
Division & Bureau: Maintenance

Class Code Title:
Pay Band: 5

Section & Unit: Communications
Work Address:2701 Prospect Ave
Helena, MT 59620

Position Number : 44010

Phone: (406) 444-6332

☐ FLSA Exempt ☒ FLSA Non-Exempt

Profile done by:
Kevin Bruski

Work Phone:

Work Unit Mission Statement or Functional Description:

Describe the Job's Overall Purpose:
To provide a network of land mobile radio communication service for the Department of Transportation and other state agencies by engineering system design, overseeing the performance, managing placement and procurement of radio communications equipment for the purpose of increasing departmental efficiency and providing a network of safety for employees and the traveling public. To analyze and guarantee reliable functionality of divisional computer local area networks (LAN), departmental computer wide area networks (WAN), PBX telephone systems and solid state voice messaging systems for road and construction reports. Sustain necessary wireless telecommunication services and equipment across the state. To provide the expertise to ensure reliable performance, calibration and operation of a statewide fueling network and automatic tank gauging used for of electronic accounting and inventory of state fuels. To provide the support of the department's statewide interactive video conferencing system. To engineer, analyze, manage the performance and placement of a variety of other electronic equipment statewide as necessary.

SECTION II - Major Duties or Responsibilities

Under remote supervision, the incumbent will design, develop and present concepts and system layouts to the Communications Bureau Chief or Telecommunications System Analyst. Using sophisticated diagnostic equipment and methodology in order to provide efficient inter/intra departmental communications and operation the incumbent will manage the performance and placement of, analyze and calibrate complex electronic communications systems. Co-ordinates system implementation within his area, implements network changes, analyze and resolve system and network problems. Submit design proposals, co-ordinate the placement of and manage the integrity of statewide automated fuel dispensing and tank monitoring systems. Administer wireless telecommunications services throughout the state.

65%
Insures proper performance of communications systems, local area network and wide area network electronic equipment, fuel network equipment, personal communicators, interactive video network and the computer software used in programming and diagnosing these systems. Manage the performance and placement of complex electronic equipment associated with land mobile communications, which provide for the efficiency of day to day operations within the department and other agencies.
Evaluates and improves land/mobile communication system operation through the use of intellectual analysis and principles of troubleshooting in order to isolate and resolve obstacles which can hinder reliable land mobile communications.
Manage divisional telecommunication systems in order to meet clientele obligations. Develops divisional telecommunication network plans by making recommendations concerning the most appropriate implementation strategy. Completes complex and diverse assignments with regard to mobile/stationary radio equipment in remote areas. Uses a wide variety of specialized computer software to program, interconnect, align, and diagnose microprocessor-based equipment. Restores performance of complex electronic circuits, associated with land mobile communications, to component level using engineering schematics, electronic theory, and specialized test equipment identifying faulty parts minimizing repair costs of circuit card or equipment replacement.

Manage the performance and placement of complex electronic equipment, associated with departmental computer local area networks and the wide area network, to support essential and critical data transfers regarding highway construction and maintenance activities to and from all area offices across the state. Provides expertise and fundamental data used to develop network plans, design, and implementation of computer network wiring in statewide departmental complexes. Analyzes and upgrades wiring systems using sophisticated network tools and test equipment specific to data transmission. Relying upon knowledge of computer science resolves personal computer connectivity and network problems. Reestablish network service to the equipment level using a fundamental understanding of operating systems and equipment associated with local area networks such as bridges, gateways, modems, servers, network cards and software applications.

Manage the placement and sustain the reliable performance of the statewide automated fuel dispensing and tank monitoring systems used for efficient accountability of fuel distribution. Installs inter-system wiring, terminals, site controllers, and point of sale terminals, used for controlling fuel pumps and information transfer of data, necessary for fuel accounting and billing. Using computer software, programs site specific parameters and links the system to the nation wide fueling network. Uses complex test equipment and password protected security diagnostic features along with a thorough network understanding to resolve system failures.
Ensures proper placement, manages desired optimal performance of complex electronic, electrical, and electromechanical equipment other than that associated with telecommunications equipment to support the safety of the public on roadways and in aircraft, persons with weather sensitive activities, and employees of the department. This includes, but is not limited to, National Weather Service transmitters, data collection and transmission equipment, Traveler Information Systems (TIS), automated hazard equipment, emergency lighting and siren equipment, distance measuring devices, Federal Aviation Administration (FAA) non-directional beacon navigation devices, cellular phone equipment and new equipment often unique and unprecedented. Analyzes equipment capabilities, design specifications and system restrictions to determine if equipment meets the needs of clientele.

25% Provides expertise, fundamental data and resources to the Communications Bureau Chief and Telecommunications System Analyst, substantiating the advantages and disadvantages pertaining to large-scale departmental projects. Make general project decisions insuring departments interests have been met. Acts as a technical liaison between the Communications Bureau, contractors and department personnel regarding the design and development of new control systems, new site locations, and equipment specifications of buildings, towers and utilities. Monitors progress by directing contract employees progress and departmental employees on large technical projects. Researches new replacement materials estimating monetary benefits and dependability. Ensures appropriate procedures specified by Federal Communications Commission rules and regulations and departmental policies have been followed so that agencies serviced are not in violation. Using the knowledge of principles of electrical/electronic engineering, develops network documentation and schematic diagrams for future reference. Generates new ways of configuring systems and aligning inter-system parameters in order to save the department time and revenue. Develops solutions to correct problems as they arise.

10% Initiates equipment transfers and data entries concerning divisional communications equipment preventative maintenance inventory and schedules. Provides the analytical aptitude and expertise to answer questions regarding job related divisional problems, making decisions on appropriate action needed and pursuing the objective. Maintains divisional logs, equipment calibration cycles, divisional interagency frequency authorization records, and weekly work schedules and progress reports. Researches and procures necessary materials and parts for equipment repair and readiness. Researches and writes bid specifications for the purchase of new equipment needed to sustain the departments statewide networks and presents them to supervisors for approval.

2. Specific examples of problems solved, decisions made, or procedures followed when performing the most frequent duties of this position.

3. The most complicated aspect of this position is?

4. Guidelines, manuals or written procedures support this position are?

5. Which of the duties and/or specific tasks listed under 1. (above) are considered “essential functions” which must be performed by this position (with or without accommodations)? (If you need information or training on the identification of essential functions, please contact MDT Human Resources Division.)

6. Does this position supervise others? ☐ Yes ☒ No

This position does not directly supervise personnel. The incumbent occasionally acts as lead worker over contract personnel and peers.

7. This position is responsible for:

☐ Hiring ☐ Firing ☐ Supervision ☐ Pay Level
☐ Performance Management ☐ Promotions ☐ Discipline
☐ Other:

8. Attach an Organizational Chart.

SECTION III - Minimum Qualifications *- List minimum requirements for the first day of work.*

Knowledge and skills required for this position:

Knowledge: Requires a high order of analytical ability combined with knowledge of land mobile radio communication and telecommunication methodologies, principles and practices. Working knowledge of the Federal Communications Commission (FCC) rules and regulations, local, state and federal policies, specifications and guidelines as they apply to the needs of the agencies serviced. Must have knowledge of the principles of electrical/electronics engineering with emphasis on land mobile radio communications and telecommunications. Must have thorough knowledge of the installation, maintenance and repair of specialized digital and analog electronic equipment used within the industry. Must have an extensive knowledge of principles and practices associated with WAN's, LAN's and the ability to apply aspects of network design. Working knowledge of the National Electrical Code, and standards from the National Electrical Manufacturers Association.

Skills: Extensive skills in the use of complex electronic analyzing equipment, system analyzers, spectrum analyzers, time domain reflectometers, miniature electronics soldering/desoldering equipment, local area network analyzers, computers and associated software packages used in the design, programming, diagnostics and maintenance of complex electronic and communications systems. Motorized vehicle handling skills including operating four-wheel drive pickups and snowmobiles in unstable terrain. Specialized safety skills needed for erecting, climbing and performing installation of antennas on towers.

Abilities: Perform complex electronic tests in order to analyze, isolate and resolve problems. To verify that system and equipment performance meet Federal Communications Commission's regulations. Must be able to communicate effectively both orally and in writing. Establish and maintain a healthy, effective and professional working relationship with employees, agencies and public. Work with vendors that offer a service or support which may be type specific to solve problems not considered general knowledge and not covered in supplied manuals. Train personnel in the proper use of equipment either in person, via telephone or written instruction. Assess situations for potential dangers and portray a level of work habits so as not to endanger ones self or others. To accept physical demands required.

Education:
Check the one box indicating minimum education requirements for this position for a new employee the first day of work:

☐ High school education required
☐ 1-year college/voc. training
☒ AAS/2-years college/vocational training
☐ Bachelor's Degree
☐ Master's degree

Specify the acceptable bachelor's degrees: Minimum of two years of post-secondary education or A.A.S. degree in electronics and telecommunications combined with three years of technical experience specific to Land mobile radio communication including project development, system installation and working familiarity with various systems and network designs.

Retain recognized professional certification in the field of telecommunications, such as a general class Federal Communications Commission (FCC) Radio Telephone Operators License, Personal Communications Industry Association (PCIA) or Association of Public safety and Communications Officials (APCO).

Experience:
Check the one box indicating minimum work-related experience requirements for this position for a new employee the first day of work:

☐ None	☐ 6 years
☐ 1 year	☐ 7 years
☐ 2 years	☐ 8 years
☒ 3 years	☐ 9 years
☐ 4 years	☐ 10 years
☐ 5 years	☐ Other _____(be specific)

Other specific experience: Retain recognized professional certification in the field of telecommunications, such as a general class Federal Communications Commission (FCC) Radio Telephone Operators License, Personal Communications Industry Association (PCIA) or Association of Public safety and Communications Officials (APCO).

Alternative Qualifications:
This agency will accept alternative methods of obtaining necessary qualifications.

☐ Yes ☐ No

Specify*:*

SECTION IV – Other Important Job Information

The incumbent must be able to perform work activities under periodic stressful situations. Be in a travel status that often requires the employee to be away from home for consecutive weeks at a time. Travel alone in excess of 25,000 (twenty five thousand) miles annually, using various modes of transportation including (but not limited to) snow shoes, snowmobiles, four wheel drive pickups, horseback, and helicopter under normal to extremely adverse weather conditions in order to access critical sites located in populated or remote mountain top locations throughout the state. To be able to lift or move heavy objects (180 pounds), including electronic equipment and snowmobiles. The ability to place radios and other electronic devices in vehicles and equipment which requires all types of lifting and maneuvering in cumbersome positions and restrictive spaces such as under dashes and in trunks. Must be able to safely climb towers and utility poles and work at heights in excess of 300 (three hundred) feet for long periods of time in all types of weather conditions. Exposure to lethal high voltages, high levels of radio frequency radiation, sulfuric acids, solvents, and lead products. Potential exposure to deadly airborne virulent diseases such as hantavirus.

SECTION V – Signatures

Signature indicates this statement is accurate and complete.

Employee:

Name: Title

Signature Date

Immediate Supervisor:

Name: Title

Signature Date

Division/District Administrator:

Name: Title

Signature Date

Department Designee:

Jennifer Jensen Administrator, Human Resource Division
Name: Title

Signature Date

STATE OF MONTANA
MONTANA DEPARTMENT OF TRANSPORTATION
JOB EVALUATION

This section is to be completed by a trained classifier in or contracted by the Human Resource Division or by the State Personnel Division.

Prepared By Date

Position Status: ☐ Reclassification ☐ Vacant ☐ New Position ☐ Career Ladder

Choice of Class Series:

Position Summary:

Classification Factor Level:

The predominant work of this position consists of:

Factor level Comparison:

Benchmark Comparisons:

Classification Analyst:

Name: Title

Signature Date

Agency Approval:

Jennifer Jensen Administrator, Human Resource Division
Name: Title

Signature Date